



explore a nature lover's gem

From ice caves to rare snails, Bixby State Preserve packs diverse life into a small setting

BY LARRY STONE PHOTOS BY CLAY SMITH, BRIAN BUTTON

ICE CAVE

With all its other natural features—diverse plant life, spring-fed stream, and fascinating geology—Bixby's ice cave still may be the feature for which the park is best known.

About a century ago, lead miners dug into the hillside and enlarged a crack in the limestone—although the date and the names of the miners are uncertain. Several local residents claim to have seen mining tools, an ore cart, and rails for the cart in the rear of the cave, which may have extended about 80 feet into the hill.

Legend has it that the mining effort was abandoned when too much ice formed in the cave. A newspaper account, apparently from the 1930s, describes “a wagonload” of ice. Many Edgewood area residents tell of collecting ice from the cave to make ice cream. Some admit to cooling their contraband beer there as teenagers.

Geologists say ice caves form when cold air seeps down into underground cracks or crevasses in the winter, chilling the bedrock. Water from melting snow or rainfall freezes when it contacts the cold rock.

Air sinking down through cracks or sinkholes often flows out the mouths of ice caves or cracks in the rocks, creating a cool microclimate around the site. The cooler pocket of habitat provides a suitable environment for plant and animal species found in few other places. Biologists have coined the term “algific slope” to describe such cold air seeps.



A spring-fed creek twisting through a canyon where bedrock meets prairie; rare plants growing on lush, wooded slopes; cool air pouring from a legendary ice cave; scenery to take the breath of Midwesterners jaded by vistas of crop fields: this is Bixby State Preserve.

For more than a century, this secluded valley just north of Edgewood, in Clayton County, has charmed naturalists. Yet the 184-acre preserve remains as much of an ecological gem today as in 1887, when R. J. Bixby bought the first parcel of land that later would become “Bixby’s Park.”

Part of the charm of Bixby is that there are “a lot of habitats packed into a small area,” says DNR botanist John Pearson. “Iowa had a lot of diversity to start with, but Bixby had even more than most areas.” He cites the stream, which flows through a steep, wooded valley dissected by tributary ravines. On the adjacent hilltops, savanna blends into more open prairie. “There are so many habitats coming together,” Pearson says, “and each habitat has its own diversity.”

On a spring hike at Bixby, Pearson beams with delight

as he quickly identifies several uncommon species: leatherwood, bulblet bladder fern, yellow birch, golden saxifrage, dwarf scouring rush, Canada yew. Even northern monkshood, a federally threatened species, is found here.

“Bixby may contain the highest diversity of plants per acre of any Iowa woodland,” concludes botanist William Norris, who inventoried the plants for the State Preserves Board. He found 380 native species, and another 60 or more introduced species.

In 1988, botanist Gerould Wilhelm, of the Morton Arboretum near Chicago, proclaimed the algific slopes of Bixby’s Bear Creek Valley “absolutely the best such slopes I have ever seen.” He called a visit to Bixby “a genuine thrill.”

But you don’t have to be a scientist to appreciate Bixby. Anyone can relish the sound of Bear Creek gurgling over moss-covered boulders as it slithers its way through the cool, lush-green shade of a deep ravine. A green frog “plucks” its banjo-like call from beneath the stream bank. Light-green patches of duckweed, with thousands of perfect, tiny leaves, dot the quieter pools. Blocks of dolomite—some larger than an automobile—lie strewn along and in the stream, and at the base of the canyon slopes.

Anglers sometimes prowl the little creek in search of wily brown trout that may have grown to lunker size after being stocked as fingerlings.

In the spring, the forest floor is dotted with thousands of wildflowers: Dutchman's breeches, bellwort, bishop's cap, toothwort, sweet William, wild geranium and nodding trillium—and an occasional yellow lady's slipper orchid. Later in the season, delicate, dangling yellow or orange blossoms accent streamside clumps of jewelweed. Tall coneflowers, with drooping, pale-yellow flowers, stretch above the rich, shady stream banks.

Up a side canyon, only a pool of still water in an otherwise dry ravine marks where runoff from spring snow melt had cascaded over a ledge and into the valley a few weeks before.

A delightful bird chorus floats through the trees. Along with the more common songs—phoebe, house wren, northern yellowthroat, redstart, indigo bunting, warbling vireo—you may hear the melodious wood thrush, or the downward-spiraling trill of the veery, or the staccato “kuk-kuk-kuk” of a pileated woodpecker.

Bixby even smells wild and lush, with the earthy aroma of fallen logs moldering back to the soil, the fresh scents of myriad green leaves, and the cool, moist air that hangs over the stream.

THE BEAUTY SPOTS OF IOWA

R. J. Bixby and his family may have sought that same peace and solitude when they bought 84 acres of land that would become the nucleus of Bixby State Park, and the expanded Bixby State Preserve. Bixby, who was a businessman and state legislator from Edgewood in the late 1800s, built a summer cabin at the site. The Bixbys welcomed public use of the area, which became known locally as “Bixby's Park.”

Botanist Louis H. Pammel, who helped establish the first State Board of Conservation in 1917, praised the Bixby family in the 1919 book, *Public Parks of Iowa*.

“Some men and women for the pure love of nature have whole-heartedly set aside areas to be preserved so that not only the present, but future generations can enjoy what has been given to us,” Pammel wrote, after a visit to the site. “It was, indeed, a rare pleasure to view one of the beauty spots of Iowa.”

Pammel described leaving the fertile prairies and driving down a steep road to reach the Bixby property. “This ravine connects with a larger one, the real mecca of the lover of nature,” he said. “A beautiful stream of pure water fed by springs comes from the adjacent outcrop of limestone.” He marveled at the



- 1) Cool, shady ravines offer solitude. 2) Late spring bloom of sweet William (*Phlox divaricata*) graces rich, moist soils in deep woods.
- 3) A painted turtle (*Chrysemys picta*) basks in the sun of Bear Creek. Active until late October, they are one of the first reptiles to emerge from hibernation.
- 4) Duckweed, sugar maple and red oak leaves float in cold, clear spring waters.
- 5) Bellwort (*Uvularia grandiflora*) flower hangs from April to June in rich, moist upland forests. Its stalks and leaves were cooked and eaten as greens by settlers, with shoots used like asparagus.
- 6) Dolomite rocks show layering and jointing, or vertical cracks, that allow water and air to move underground. Winter's frigid air seeps deep underground creating a subterranean freezer. Water from spring thaws turns to ice upon hitting the frozen rock, creating microclimates of cool airflow during the summer that host rare plant and animal species.
- 7) Cold spring water flows from between fern covered rocks.
- 8) Toothwort (*Dentaria laciniata*) blooms March to May across Iowa in large patches. Pioneers used its tubers for cooking.
- 9) A gravel road winds and descends into the park valley. To the left of the road is the narrow canyon shown on the next pages.
- 10) Close up of the gurgling spring hidden in a rocky crevice in photo seven.

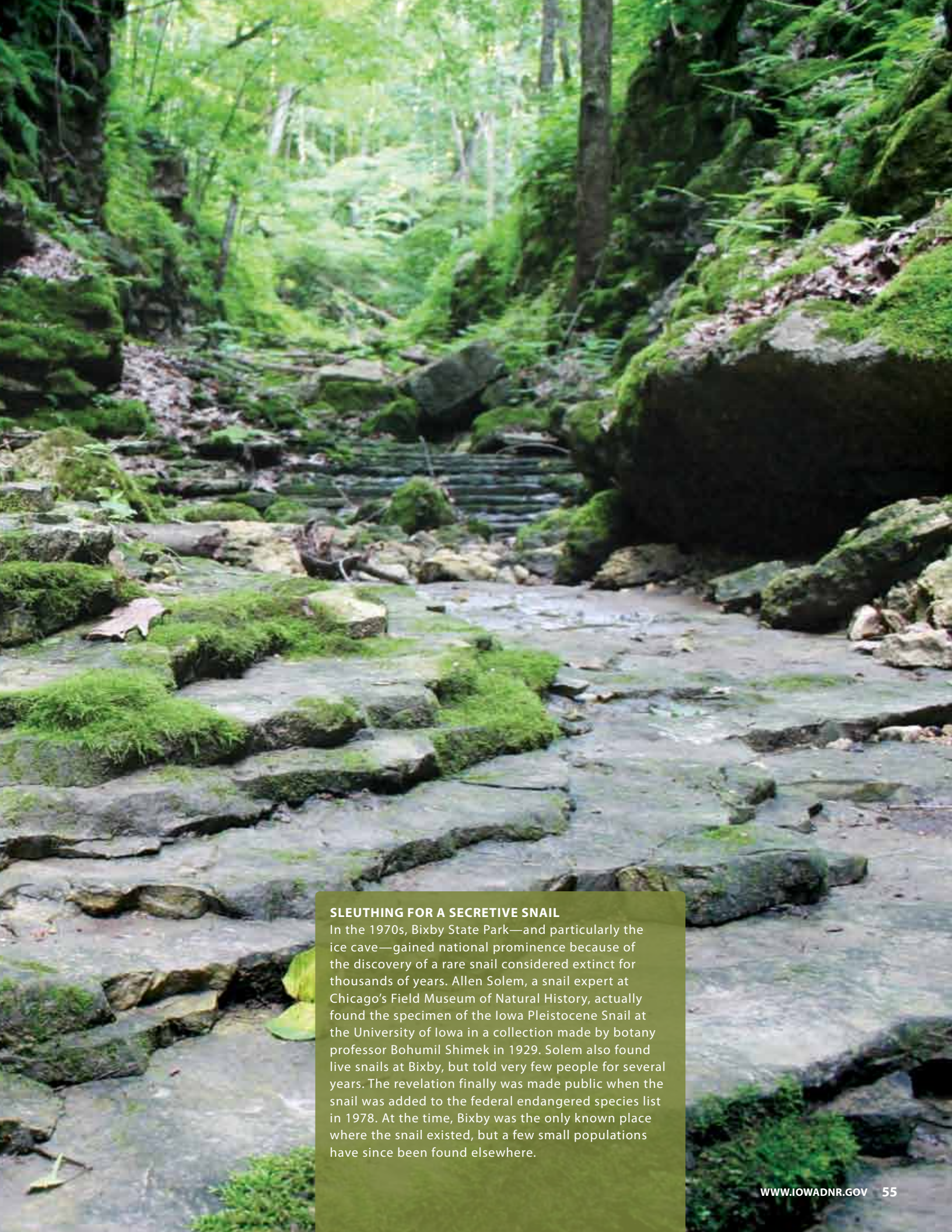
UNIQUE GEOLOGY OF BIXBY

Bixby is one of several state parks or preserves along the Silurian Escarpment—a prominent line of 400-million-year-old dolomite and limestone stretching across northeast Iowa between Fayette and Jackson counties. The town of Edgewood gets its name from the way the wooded, rocky bluffs of the paleozoic plateau to the north seem to protrude from the prairies of the lowan surface to the south and southwest.

This formation, with fractured limestone, or karst bedrock, lays the foundation for the preserve, creating the steep bluffs, scenic overlooks, the narrow stream valley, and habitat for an unusual plant community. The karst forms numerous caves, fissures and sinkholes, which dot the park and surrounding area.

A trail leads up the hill to “Steamboat Rock,” towering perhaps 200 feet above the valley. A short footbridge spans a crevasse to Castle Rock, which stands equally as tall. A cave large enough to crawl into reaches several yards back into the base of Castle Rock.

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SLEUTHING FOR A SECRETIVE SNAIL

In the 1970s, Bixby State Park—and particularly the ice cave—gained national prominence because of the discovery of a rare snail considered extinct for thousands of years. Allen Solem, a snail expert at Chicago's Field Museum of Natural History, actually found the specimen of the Iowa Pleistocene Snail at the University of Iowa in a collection made by botany professor Bohumil Shimek in 1929. Solem also found live snails at Bixby, but told very few people for several years. The revelation finally was made public when the snail was added to the federal endangered species list in 1978. At the time, Bixby was the only known place where the snail existed, but a few small populations have since been found elsewhere.



1&10) Calcium-shelled creatures and sediment of ancient shallow seas formed limestone, but over time magnesium replaced some of the calcium to form dolomite, an erosion resistant rock. **2)** Roots of the rare yellow ladyslipper (*Cypripedium calceolus*) benefit from local soil fungi that aides nutrient uptake. Attempts to transplant ladyslipper upsets this root-fungi balance—killing the plant. Removing wildflowers is illegal and unethical and decreases their survival chances. **3)** Bear Creek beckons trout anglers. **4)** Settlers used tannins in wild geranium (*Geranium maculatum*) to tan hides. **5)** Soaring shady trees, cold springs and the ice cave make Bixby a cool summer bet. **6)** Liverworts are found on rocks near dripping seeps and splashing springs. The plant lacks water-conducting vessels and must absorb water through direct contact. **7)** Nodding trillium (*Trillium cernuum*) blooms March to June in moist loose soil woodlands. **8)** This log cabin built in 1897 on the R. J. Bixby property near Bear Creek later became the site of Bixby State Park. **9)** On sultry days the ice cave steps are shrouded in foggy, chilled air.

diversity of trees and shrubs, from Canada yew and paper birch to butternut and red oak. He called the valley “a paradise for the lover of plants and the lover of wild life in general.”

Family traditions—and even some DNR publications—hold that R. J. Bixby donated the land to the state of Iowa for a park. In reality, the state purchased the land from I. P. Gates in 1926—apparently after the Bixby family had suffered financial problems and lost title to the property. Edgewood area residents lobbied for the acquisition, raised part of the money and continued to praise the Bixbys for their long-time preservation efforts.

Although the topography of the Bixby valley has changed little in the past century, management of the site has continued to evolve. Initially, the Bixbys saw their land as a summer getaway, with a comfortable log cabin reached by horse and buggy or automobile.

With state park status came more roads and picnic areas. In the 1930s, Civilian Conservation Corps (CCC) crews built picnic areas, latrines, shelters, trails and steps to the ice cave. The CCC “boys” also installed pipes and a holding pool for a spring. Over the years, local volunteers helped clean and maintain the park.

In the 1970s, park management was transferred to

the Clayton County Conservation Board. The state took over again after Bixby was dedicated as a State Preserve in 1979. The preserve designation recognized the unique biological and geological features of the original park, and of a 115-acre addition acquired in 1978 along the rugged stream valley to the west.

Now DNR parks staff maintains only a picnic shelter and parking lot near the preserve entrance. A steel gate over the mouth of the ice cave prevents people from entering the slippery chamber and either injuring themselves or damaging the unstable rock formations. A wooden guardrail limits access to adjacent algalic slopes. The rest of the preserve is relatively undeveloped, except for a trail up the north side of the valley to an overlook at Steamboat Rock. A short footbridge leads to adjacent Castle Rock.

After decades of change, however, a 1938 newspaper article about Bixby still rings true:

“More spectacular scenery is crowded there . . . than in any tract of land of similar size in Iowa. The massive tumbled rocks, the steep wooded hills, the clear ice-cold water from the many springs and the cave with ice in it throughout the summer, awe one and so thrills the visitor that his visit to the park is never forgotten.”

The impressive silence of the place is outstanding. 🐾



HOW TO GET THERE

Bixby State Preserve is about two miles north of Edgewood along Fortune Avenue, a gravel road. Use extreme caution if Bear Creek is flowing over the low-water crossing. The road through the preserve is gated and not maintained in the winter, although walk-in access is permitted.

BEAR CREEK

Although black bears have been reported in Clayton County only a handful of times in the last century, the animals commonly roamed the area more than 150 years ago. Time-worn stories suggest the tiny creek flowing through Bixby is aptly named.

A favorite tale, from an 1878 history of Delaware County, recounted the adventures of brothers Samuel and Missouri Dickson, when they tracked a bear north of Edgewood in 1839.

Soon after they had parted, Missouri came up with the bear, which had curled down to sleep beneath an overhanging rock. He fired his rifle and wounded the bear, when it immediately turned upon him, and he fled in the direction of the creek. Dickson wrote of his adventure: "Fur half a mile or so, there wuz nuthin' more'n daylight between us, an' if Sam hadn't afired just as I wuz hoovin' it across the crik, there'd abeen one old bear hunter a considerably spiled."

